



U.S. Fish & Wildlife Service

Fish & Wildlife News

January/February 1999

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Anne Badgley Steps in as Pacific Regional Director



Pacific Regional Director Anne Badgley. Photo by Tami Heilemann/DOI.

Anne Badgley is the new regional director for the six-state Pacific region.

“Anne has a strong background in natural resource management and knows western issues well,” Director Jamie Rappaport Clark said. “In addition, Anne has a reputation as a creative and innovative leader. I believe she will be an excellent addition to the agency’s management, and I look forward to working closely with her in supporting the mission of the Service.”

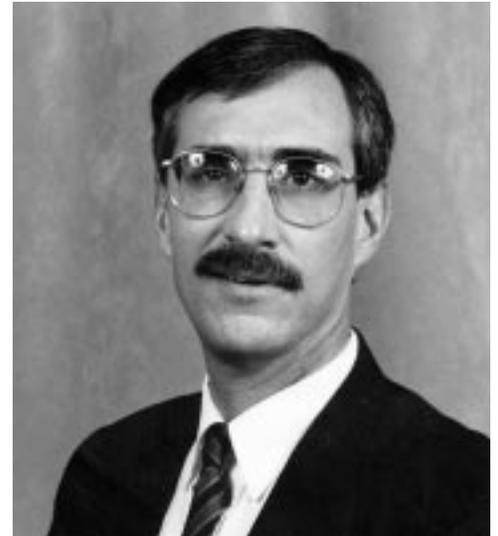
Badgley most recently served as assistant regional director for external affairs in Region 1. She came to the Service in 1996 after serving as chief of staff for the National Park Service in Washington, D.C.

Badgley also worked as the primary environmental and natural resources aide and legislative assistant to former Senator Brock Adams of Washington state, and as deputy director of congressional and intergovernmental affairs for the Department of the Interior. She practiced law as an environmental attorney for Seattle-based firm Perkins Coie in its Washington, D.C., office.

A native of Seattle, Badgley holds a master’s in business administration from the University of California in Los Angeles and a law degree from the University of Washington. While there, she was editor-in-chief of the Law Review and was honored as the National Association of Women Lawyers’ outstanding law graduate. She also has experience in radio and television news.

“These credentials, coupled with her background in natural resources management have provided her with a strong foundation for assuming the responsibilities of regional director,” Clark said.

Position Changes in Washington External Affairs



Assistant Director for External Affairs Tom Melius. Photo by Tami Heilemann/DOI.

Service Welcomes New AD for External Affairs
Tom Melius is the Service’s new assistant director for external affairs.

Melius is the former director of conservation policy and a senior advisor at the National Fish and Wildlife Foundation.

“Tom’s experience with legislative issues, public relations activities, and federal grant-making programs both with the Foundation and on congressional committees, makes him a natural to head the External Affairs office and a solid addition to the Service,” said Director Jamie Rappaport Clark.

On the cover:

Mussel in peril. Service biologist Janet Butler displays two zebra mussel-encrusted native mussels taken from the Ohio River (see story on page 16). Zebra mussels and other invasive species are responsible for the deaths of many thousands of native species each year. Photo by Eric Eckl.

Prior to working at the Foundation, Melius served as a senior staff member on the Senate Committee on Commerce, Science, and Transportation, managing legislation involving oceans and fishery-related issues. Before that he was a staff member on the House Committee on Merchant Marine and Fisheries, where he advised members on fish and wildlife-related legislation that included migratory waterfowl and the federal Duck Stamp program, federal aid activities and endangered species.

Melius also worked as an assistant director for the National Rifle Association in Washington, D.C., supervising the group's hunting information, awards and education program, and working extensively with state fish and wildlife agencies. He began his career as a wildlife biologist in Pennsylvania at Nemaquin Trails Hunting Reserve.

Melius has served as a congressional advisor to a variety of international U.S. delegations, including the delegations to the Convention on International Trade in Endangered Species of Wild Threatened Fauna and Flora, the Ramsar Convention on Wetlands and the U.N. Conference on the Environment and Development.

A native of South Dakota, Melius received a bachelor's degree in wildlife biology and a master's degree in wildlife and fisheries science from South Dakota State University.

Million Named Partnership Coordinator

Phil Million, Service Public Affairs head since 1984, has given up the daily fire drills of Public Affairs to become the special assistant for Conservation Partnerships, a new position located in External Affairs in the Washington Office.

In his new position, Million is working to re-energize the Service's partnership agreements with constituent groups, and will also be focusing on the Service's role in the newly-funded outreach campaign for sport fishing and boating, established under the auspices of the Sport Fishing and Boating Partnership Council.

"Phil's legacy to the Service from his years in Public Affairs is substantial," said Mike Smith, Deputy Assistant Director for External Affairs. "For those who were not here 15 or 20 years ago, it is hard to imagine the advances that have been made in the Service's awareness and understanding of the importance of good public affairs work to our conservation mission. Phil helped the Service understand why public affairs was important, and his skill and credibility with the news media helped the Service gain public understanding during numerous crises. He also supervised the production of the Service's major videos, ran a professional printing operation, and established strong public affairs staff support for programs.

"Perhaps his most important legacy," Smith contended, "is the sound reputation and credibility of the Service's public affairs operation among the nation's news media."

Among the many media campaigns Million supervised were the book, film, and news coverage for the 50th anniversary of the Pittman-Robertson Federal Aid program; a major outreach campaign on the effect of drought on duck populations and the need for duck harvest restrictions; and press coverage of the reintroduction of gray wolves in the Yellowstone ecosystem.

Million served as assistant director for Public Affairs beginning in 1984 and later became chief of Public Affairs when the Assistant Director for External Affairs position was created.

Stepping into the Public Affairs chief position is Megan Durham, who most recently served as the National Outreach Coordinator. Durham will oversee the Media Services, Broadcast and Audiovisual, and Printing and Publications offices located in the Main Interior Building. Before becoming the Service's outreach coordinator Durham served as deputy chief of Public Affairs and as chief of the office of Current Information (now Media Services).

Durham's 25-year career with the Service includes public affairs support for all Service programs and the North American Waterfowl Management Plan, as well as 2 years as an editorial assistant for technical research publications in the former Research Division.

*Rachel F. Levin, Public Affairs,
Washington, DC*

Mexican Wolf Program Pushes On

Biologists moved two groups of Mexican wolves into acclimation pens in the Apache National Forest in mid-January, while the four remaining wolves from the first reintroduction last year were released into the forest with markings intended to help hunters distinguish them from coyotes.

Service and Arizona Game and Fish Department biologists transported five wolves from Ted Turner's Ladder Ranch in southern New Mexico to the Engineer Springs acclimation pen, and shortly after moved four wolves from Sevilleta NWR to the Turkey Creek pen.

Each of the two new groups consists of a family of wolves bred in captivity; adults were held at the facilities for 12 to 14 months and offspring were born at the facilities in May 1998. The wolves will be held in the pens for a month or two to become acclimated to their surroundings, and then will be released into the forest.

All wolves will wear brightly colored radio collars that will allow them to be monitored by wolf biologists and enhance their visibility if forest users encounter them.

Meanwhile, two pairs of wolves released from the Engineer Springs and Campbell Blue pens on December 11, 1998, continue to explore their surroundings.

Last of the original eleven wolves released last spring, the two males were captured and each paired with a female in their respective pens.

The hindquarters of each wolf were spray-painted orange and the radio collars were also painted, orange for the males and pink for the females. The paint will not interfere with mating because the animals are colorblind.

Interior Secretary Bruce Babbitt assisted Service biologists in transferring the female wolf to the Campbell Blue pen.

"My presence here is to say the lobo is here to stay. We will do whatever is necessary to ensure its success," said Babbitt.

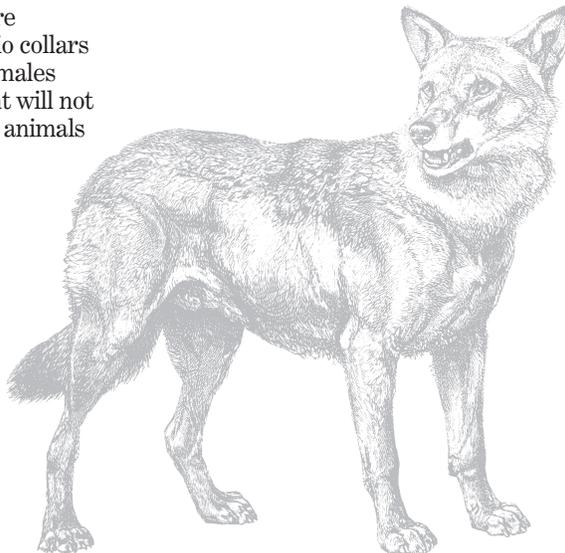
Of eleven wolves, released as part of an experimental, nonessential population, only these four remain in the wild. Biologists captured four other wolves and returned them to Sevilleta NWR in New Mexico. Five wolves were apparently shot, including the mother of the first Mexican wolf pup born in the wild in more than 25 years. Consequently, it is presumed, the pup is dead too.

"All of these losses are tragic," Babbitt said, "because the wolves were displaying all the right behaviors in the wild. Each of them was successfully hunting elk and avoiding livestock."

The mother wolf, found dead last August, was particularly demonstrative of how capable the wolves were of adapting to the wild. After she had endured a severe injury while hunting elk, she was strong enough to recover and continue hunting and killing food for her new pup.

*Hans Stuart, External Affairs,
Albuquerque, New Mexico*

*Ben Ikenson, Student Conservation
Associate, Albuquerque, New Mexico*



Workshop Targets Marine Invertebrate Trade



Making a match. Service Special Agent DeMarion McKinney practices coral identification during a workshop field trip to a coral importer's warehouse. Photo by Kim Hamilton

Efforts to curtail illegal trade in corals and other imperiled marine species got a boost in November when law enforcement officers from the United States, Canada and Mexico examined the issue at a four-day marine invertebrate workshop in Long Beach, California.

The workshop, sponsored by the North American Wildlife Enforcement Group, targeted growing global concern about the future of coral reef ecosystems and such marine invertebrates as giant clams and queen conch. The Commission for Environmental Cooperation, which addresses North American environmental issues, provided funding and administrative support for the training program.

"Huge quantities of corals and other marine species enter trade each year, and many end up in the United States or other North American markets," said Service Senior Wildlife Inspector Sheila Einsweiler, who helped plan the workshop and taught a segment on identifying products made from marine invertebrates. "International protections regulate this trade, but enforcing those rules at the port of entry can be difficult."

Species identification is the first step in the import inspection process, but this task can be a major hurdle. International trade restrictions, for example, cover more than 250 genera of stony coral alone. These reef-building corals cannot enter the United States, Mexico or Canada legally

Investigation Results in First-Ever Coral Smuggling Charges

unless they are accompanied by export permits from the country of origin.

“You can’t verify a permit, detect fraud, seize an illegal shipment or foil a smuggling attempt if you don’t know what you’re looking at,” Einsweiler said.

The workshop focused heavily on species and product identification. Classroom instruction was supplemented by field trips to two local marine import businesses where participants had a chance to test their refined identification skills on the establishments’ inventories.

The workshop opened with an overview of protected marine species and included sessions on protecting reef ecosystems, global trade patterns, and techniques for conducting inspections and detecting fraud and smuggling. Scientists from the Southern California Marine Institute briefed the group on efforts to artificially cultivate corals, and staff from the Aquarium of the Pacific discussed ways to store and care for seized corals and marine invertebrate species.

Service Wildlife Inspectors Janine Marquardt from Miami and Michael Osborn and Dahlia Merida from Los Angeles served as instructors. Training segments were also presented by representatives from the Mexican government’s environmental protection authority, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, and TRAFFIC USA, an arm of the World Wildlife Fund that studies wildlife trade issues.

The marine invertebrate workshop was the fourth in a series of cooperative training programs sponsored by the North American Wildlife Enforcement Group. Previous programs addressed enforcement issues involving the reptile skin, wild bird and fur trades.

“Trilateral workshops allow our countries to share information and expertise and improve our collective enforcement capabilities,” said Kevin Adams, chief of the office of Law Enforcement. “Our ultimate goal is to close North America as a market for illegal wildlife and wildlife products.”

Sandy Cleva, Division of Law Enforcement, Arlington, Virginia



Contraband. Service inspectors seized a shipment containing some 400 boxes of endangered coral as part of a multi-year coral smuggling investigation. USFWS photo.

A federal investigation of a coral and seashell smuggling operation resulted in the November 1998 grand jury indictment of a Florida businessman and his Philippine trading partner on conspiracy charges.

The case, pursued by Service special agents and wildlife inspectors with the law enforcement office in Tampa, Florida; officers from the U.S. Customs Service; and the U.S. Attorney for the Middle District of Florida, is believed by the Justice Department to be the first federal criminal felony prosecution involving illegal coral and seashell trade.

“Coral reefs are crucial to global ecological well-being; they are a basic building block of the food chain on which people, fish and wildlife all depend,” said Sam D. Hamilton, regional director for the Service’s Southeast region. “Commercial exploitation is a serious threat to these fragile resources. Rigorous enforcement of the laws and treaties that regulate trade in corals and other species is essential to preserving the world’s marine ecosystems.”

The six-count grand jury indictment alleges that from 1991 to 1997 a U.S. importer who ran a seashell and gift shop in Tarpon Springs, Florida, conspired with the owner of an export business in Cebu City, the Philippines, to smuggle protected corals and seashells into the United States. The pair allegedly used false declarations, invoices and shipping documents to circumvent U.S. and Philippine laws as well as international trade restrictions that protect corals and other marine species.

The Philippines banned the export of corals in 1977. Many of the species involved in this case, including blue, organ-pipe, branch, brush, staghorn, finger, brown stem, mushroom, and feather corals, have been listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora since 1985. Such species may not be legally traded without export permits from the country of origin.

In addition to dealing in protected corals, the defendants also allegedly trafficked in a variety of protected seashells, including giant clams, China clams, bear’s paw clams, helmet shells and trumpet shells.

The Service investigation of the smuggling operation began in July 1997 when Wildlife Inspector Joseph DeJulio intercepted a shipment containing over 400 boxes and packages of coral and seashells at the airport in Tampa, Florida. Special Agent Patrick Lund, working with counterparts from U.S. Customs, documented a series of allegedly illegal transactions between the indicted U.S. businessman and his Philippine supplier that extended back over a six-year period.

The pair have been charged with conspiring to violate the Endangered Species Act, the Lacey Act and the federal anti-smuggling law. The Florida businessman and his company have also been charged with importation violations under the Lacey Act. If convicted, the two defendants could face sentences of up to five years in prison and fines as high as \$250,000 per count.

Sandy Cleva, Division of Law Enforcement, Arlington, Virginia

Initiatives Address Migratory Bird Conservation

The Service is moving forward with several initiatives that recognize the conservation of migratory birds and habitat as vital components in ongoing efforts to keep species at sustainable levels.

Light Geese Habitat Destruction

“It’s a basic axiom of wildlife management that healthy wildlife populations can’t survive without sufficient habitat,” said Robert Blohm, acting chief of the Office of Migratory Bird Management. “For hundreds of species, loss of habitat from encroaching human development has led directly to declining populations.”

But in the case of several species of Arctic-nesting greater and lesser snow geese and Ross’ geese, agricultural, urban and refuge development has had the opposite effect. The vast fields of soybeans, wheat and other crops found throughout flyways and along wintering grounds, coupled with expanded state and federal waterfowl refuge areas, have provided light geese with ample forage and resting areas during their yearly migrations, Blohm said.

The resulting decrease in the mortality rate of these light geese has triggered explosive population growth that is contributing to the destruction of critical feeding and nesting grounds around Canada’s Hudson Bay.

Light geese feed by pulling up and eating the roots of plants, a natural practice known as grubbing. “At healthy population levels, grubbing actually helps stimulate plant growth in the salt marshes around the bay,” said Blohm.

But competition for food has caused geese to overgraze these areas, denuding large swaths of vital summer plant growth. Scientists believe that this habitat degradation has contributed to declining populations of more than 30 other bird species in the area.

In an effort to bring light geese populations under control, the Service has finalized several modifications to existing hunting frameworks and a new initiative biologists hope will dramatically increase the take of birds.



Habitat destruction. *Several species of light geese including Ross’ geese (pictured above) have overgrazed their own feeding and nesting grounds around the Hudson Bay in Canada. Photo by Glen Smart.*

The Service in February published two final rules that give state wildlife agencies in 24 Midwestern and southern states the authority to allow hunters to use unplugged shotguns and electronic calls during regular light goose seasons. In addition, states could establish a special conservation order without bag and possession limits up to and past March 10, after all other migratory bird sport hunting seasons have closed.

Baiting Regulations

The Service is working to facilitate restoration of wetlands and ensure the long-term conservation of migratory birds across the United States by proposing to change existing regulations on baiting, Kevin Adams, chief of Law Enforcement, said.

Hunting is currently restricted in areas where natural vegetation has been mowed or otherwise manipulated to make the area more attractive to waterfowl. “While baiting has been and will continue to be illegal,” he said, “the proposed change recognizes that a blanket prohibition on those practices may be discouraging landowners from improving

and managing wetlands to benefit waterfowl and other migratory birds.”

More than half of the original wetlands in the United States have been lost and many of those that remain are degraded. In many areas of the country, moist-soil management areas provide invaluable habitat for waterfowl and other migratory birds.

The proposed change to federal baiting regulations would allow hunting of waterfowl and cranes over natural vegetation that has been mowed or otherwise manipulated to benefit migratory birds, as long as the manipulation takes place at least 10 days before the start of any waterfowl season.

The change will also clarify other existing baiting rules to make it easier for hunters to understand their obligations, said Adams.

Service biologists expect no adverse effect on migratory bird populations as a result of these proposed regulatory changes. The additional areas of natural vegetation that are expected to be preserved because of the proposed changes will benefit waterfowl and other migratory birds.

The proposal sets a clear cut-off date for legal manipulation of these areas if they are to be hunted and broadens the definition of natural vegetation to include millet.

The inclusion of millet was a tough decision, Adams said, because it functions as both an agricultural crop and a moist-soil management tool, as well as an important food source for migrating and wintering waterfowl. The Service decided that the potential benefits justify including millet in the proposed definition of natural vegetation, even when it is planted and mowed.

The Service is now evaluating comments on the proposed rule, with a final rule expected sometime in the spring.

Congressional Activity

Congressional action this fall mandated changes in two other aspects of migratory game bird hunting that the Service has now incorporated into its regulations.

In past years, hunters could be cited for

Service Opens Art Gallery in Northeast RO

hunting in a baited area even if they had no knowledge that it was baited. Under a new law, they can be cited only if they "know or reasonably should have known" that the area was baited.

The law in essence expands to the entire country the liability standard in effect for parts of the South covered by the Fifth Circuit, where a 1978 federal court decision established a similar standard for baiting, said Adams. The change does not remove hunters' affirmative obligation to ask about the presence of any bait in the area to be hunted and to physically inspect the area before beginning to hunt.

Congress also included language in the 1999 Omnibus Appropriations Bill that gave six southern states the opportunity to change their duck hunting seasons from a 60-day season ending on January 17 to a 51-day season ending on January 31. The states of Mississippi, Tennessee and Alabama opted to shorten their seasons and extend them into January by two weeks, while Arkansas, Kentucky and Louisiana chose not to make the change.

*Chris Tollefson, Public Affairs,
Washington, DC*



It's an art... *Wildlife artist Alan James Robinson works on a painting at the opening of an art exhibit in the Region 5 regional office. Photo by Terri Edwards.*

The Northeast region is seeking artists interested in displaying their nature and wildlife-related art in a new gallery at the regional office in Hadley, Massachusetts. The gallery is open to the public during weekday business hours.

Wildlife artist and outdoorsman Alan James Robinson exhibited his wood engravings and lithographs, as well as his unique nature paintings done on topographical maps, from

December 3, 1998, through January 5, 1999. Robinson is the owner, designer and illustrator for the award-winning Press of the Sea Turtle in Easthampton, Massachusetts.

The nature and wildlife photographs of Sol Levine will be on display from January through March. Many of Levine's photographs were taken on Service and National Park Service lands in the southeastern United States. His work was recently on display at the Department of the Interior museum in Washington, D.C.

Contact Region 5 External Affairs at 413/253 8322 if you know of accomplished artists who may be interested in displaying their work in the new gallery. The art may be created in any medium and must relate to wildlife, nature or environmental conservation themes.

*Terri Edwards, External Affairs,
Hadley, Massachusetts*

New Refuge Dedicated in Virginia

Refuge Manager Greg Weiler hosted Senators John Warner and Charles Robb and Congressmen Davis and Moran of Virginia, along with Service and Department of Army representatives and 150 area residents at an October 31, 1998, ceremony dedicating Occoquan Bay NWR.

The new refuge is located along Occoquan Bay at the confluence of the Potomac and Occoquan rivers in northern Virginia. It is a square-mile oasis for wildlife in a heavily populated urban area.

The former Woodbridge Army Research Facility-Harry Diamond Laboratories became available to the Service as part of the

peacetime 1991 Defense Base Realignment and Closure Act. "The quality of wildlife habitat attracted strong local support for making this land into a national wildlife refuge," said Northeast Regional Director Ronald Lambertson.

Grasslands on the refuge will be managed for wildlife, and recreational opportunities will include environmental education and wildlife observation. Service engineers are designing a plan for renovating a building on the property for use as a visitor contact station. Construction is expected to begin in 1999.

*Terri Edwards, External Affairs,
Hadley, Massachusetts*

Predator-Friendly Beef for Hamburger-Hungry Humans



A novel concept. *Guests at the Albuquerque Biological Park line up for a burger made with predator-friendly beef. Photo by Ben Ikenson.*

Predator-friendly beef? What sounds like a contradiction in terms is, in fact, a new label that will appear on beef products from ranches whose proprietors believe in sharing their land with all indigenous wildlife, including coyotes, mountain lions and wolves.

Last October Southwest Regional Director Nancy Kaufman joined Craig Miller of Defenders of Wildlife as the non-profit organization introduced predator-friendly beef. About 100 people, including Albuquerque Mayor Jim Baca, attended the event at the Albuquerque Biological Park, anxiously awaiting a free burger made from Heritage Ranch beef, a product of Jim Winder's wolf-country New Mexico ranch. Between bites they read about the evolution of predator-friendly beef and learned that "... 'cattle ranching' and 'environmentally friendly' need not be mutually exclusive any longer."

Kaufman expressed the Service's support for predator-friendly beef. "Our bottom line is to work with all interested and affected parties to improve the status of listed species and the health of natural resources in the Southwest," she said. "Also, we are very concerned with maintaining economic viability for the lifestyles and cultures that have come to define the spirit of the West."

She later sampled a burger, pronouncing it "delicious."

Cattle ranchers such as Jim Winder of Heritage Ranch represent a new generation of ranchers in the Southwest who welcome the reintroduction of predators like the Mexican wolf because of the species' intrinsic importance to the ecosystem.

For the better part of this century, a federally supported predator-control program used poisons, guns and traps to eliminate species that threatened livestock. In 1914, the capture or kill of a Mexican wolf paid bounties of as much as \$10, and by the late 1970s, Mexican wolves no longer existed in the United States.

A year ago, the Service began reintroducing Mexican wolves to part of their historic range in the Apache National Forest in eastern Arizona.

Predator-friendly beef may cost more but, as Miller said, it will be worth it. He urged that the cost of restoring the environment be shared with a public who really cares for the environment, who will focus their spending on environmentally sound products, and thus enable this kind of ranching to be economically feasible.

Ben Ikenson, Student Conservation Associate, Albuquerque, New Mexico

In NH, Babbitt Salutes Wild and Scenic Rivers

Interior Secretary Bruce Babbitt traveled to Durham, New Hampshire, to celebrate the 30th anniversary of the Wild and Scenic Rivers Act last October. While there, Babbitt announced support for a project to provide anadromous fish access to spawning and rearing habitat in New Hampshire's Lamprey River, which bears the "Wild and Scenic" designation.

Signed by President Johnson on October 2, 1968, the Wild and Scenic Rivers Act protects river segments which contain remarkable scenic, recreational, geologic, historic, cultural, and fish and wildlife values. To date, 155 river segments in 36 states have been designated as National Wild and Scenic Rivers—nearly 11,000 miles in length. Protected rivers range from the mighty Missouri River to the 47-mile Lamprey River, 13 miles of which was designated in 1995.

The proposed project on the Lamprey River is slated to begin in the fall of 1999 and be completed by 2001, said Joseph McKeon, project leader at the Office of Fishery Assistance in Laconia, New Hampshire. Work at Wiswall Dam on the Lamprey will include modifications to the structure and construction of a fish ladder.

"A fish passage facility at this dam would open 43 miles of habitat, including 300 acres of spawning habitat for anadromous fish," McKeon said. "This project will restore runs of river herring, American shad, American eel, sea lamprey and striped bass to upstream sections of the river where these species historically lived."

The New Hampshire Fish and Game Department has responsibility for anadromous fish management on New Hampshire coastal rivers, and has worked closely with Service biologists in developing the project proposal.

Interior Marks 150th with Events Throughout the Year



A "Wild and Scenic" place. Interior Secretary Bruce Babbitt (left) chats with Project Leader Joe McKeon of the Service's Laconia Fishery Assistance Office along the banks of the Lamprey River. USFWS photo.

Dams built on the Lamprey River over the years to support industrial and residential development prevented fish from swimming upstream to spawn, McKeon said. A fish ladder will enhance efforts to restore river herring in the Lamprey River, and will also provide support for federal and state fish restoration efforts in other nearby watersheds.

Charlene Brown, Office of Fishery Assistance, Laconia, New Hampshire

The Department of the Interior will celebrate its 150th anniversary March 3 but the partying won't be confined to just one day. Here's a look at some of the activities planned for the coming months to recognize the anniversary, the Department and the hard work of Interior employees around the nation.

Environmental Film Festival

A gala opening night with a celebrity host will kick off this event, tentatively planned for mid-March. In addition, each interested bureau will have an opportunity to host one night of the festival.

Departmental Awards Convocation

The convocation is scheduled for March 3, 1999, at 2 p.m. in the Main Interior Building auditorium. The highest-level Departmental honor awards will be presented—Distinguished Service Awards, Valor Awards, the Secretary's Diversity Awards and Conservation Service Awards. In addition, Presidential Rank Award recipients for 1997 and 1998, and the Information Technology Award recipients will be recognized.

The Secretary will also present the newest Departmental honor, the Unsung Hero Award, established specifically for the anniversary to recognize those employees who regularly do more than their jobs require. The Department hopes in the future to honor an Unsung Hero on a monthly basis. Look for more information on the Unsung Hero Award, plus a list of winners from the Service, in the March/April issue of *Fish & Wildlife News*.



Photography and Poetry Contests

Bureaus will hold these contests for employees and their children. Stay tuned for further information.

Presidential Proclamation

The Department submitted a draft proclamation last year to ensure issuance on the anniversary date. The proclamation will emphasize the value of public lands.

Service Director Jamie Rappaport Clark is encouraging Service offices to help celebrate the anniversary using the 150th anniversary logo on all publications and incorporating the 150th anniversary into existing special events such as Earth Day, International Migratory Bird Day, National Fishing Week and National Wildlife Refuge Week. Black and white and color version of the logo are available on the DOI website at <http://www.doi.gov>.

Rachel F. Levin, Public Affairs, Washington, DC

Editor's note: In March, People, Land and Water, the Departmental newsletter, will publish a special edition to commemorate the 150th anniversary, featuring a history of the Interior Department as well as a look back at the origins of the Service and the people who have help to shape our agency's mission.

Bringing the Hatchery to the “Hilltowns”



Rinse cycle. Volunteers look on as Phil Herzig of the Sunderland Office of Fishery Assistance rinses newly fertilized salmon eggs. USFWS photo.

The Service's Connecticut River Coordinator's office, along with local businesses and the Westfield River Watershed Association, sponsored an Eco-Weekend November 14–15 in Huntington, Massachusetts. About 70 people, many of whom had little or no experience handling live fish, spawned and stocked Atlantic salmon and learned about local fisheries conservation efforts.

“This was the first time I've seen fish spawn,” said one participant, who found it “a great experience.” Another participant who tried her hand at spawning a female salmon reported, “This is a lot more complicated than I realized!”

The Eco-Weekend allowed residents of the “hilltowns” of western Massachusetts to learn about the Service's activities at the Richard Cronin National Salmon Station, located about an hour away.

“We've literally carried the hatchery to the hilltowns so people can understand what's going on in their backyard in the Westfield River,” said Mickey Novak, project leader at the salmon station, which raises Atlantic salmon for spawning and stocking in western Massachusetts rivers.

Participants were also invited to sample local cuisine and hospitality over the weekend.

About fifty people spawned salmon and twenty of them stocked the newly fertilized eggs in nearby Roaring Brook, a tributary of the east branch of the Westfield River. Volunteers built gravel nests in the stream bottom, filled them with eggs, and carefully covered the eggs to safeguard them from floods and predators.

“It gives a sense of life in the river,” said one volunteer, observing that this is “important in protecting responsible economic growth that protects our natural resources.”

Two hundred years ago, said Janice Rowan, project leader at the Connecticut River Coordinator's office, Atlantic salmon went extinct in the Connecticut River because of dams, pollution and overfishing. For the past 30 years, state and federal agencies have been working to restore these fish and the rivers in which they swim.

Now hundreds of thousands of shad and striped bass swim the river each spring, and an annual run of Atlantic salmon has returned.

However, because there are not yet enough fish to meet all needs, the Service and other agencies continue to produce and stock salmon from hatcheries, protect important habitat, conduct research, and work to get fishways built so fish will be able to swim up to their spawning and nursery habitat and out to the ocean when they're ready.

This, Rowan acknowledges, takes partnerships. Among the government agencies involved are the National Marine Fisheries Service, U.S. Forest Service, Connecticut Department of Environmental Protection, Massachusetts Division of Fisheries and Wildlife, New Hampshire Department of Fish and Game, and the Vermont Department of Fisheries and Wildlife.

“We can't get fishways built without cooperation from local businesses, and we can't stock the millions of baby Atlantic salmon throughout the river valley without huge numbers of citizen volunteers and assistance from local conservation groups,” she said. “We can't protect riverine habitat unless private landowners help. We can't even make sure anglers can tell a trout from a salmon without help from sporting goods businesses.”

According to the 1996 *National Survey of Fishing, Hunting and Wildlife Associated Recreation*, more than half of all Massachusetts residents participated in wildlife-associated recreation, and they spend nearly two billion dollars per year doing it.

“So, it's only natural that we would come together with local businesses to promote the restoration program. What we do can help them attract business. What they do can twist the balance of success for restoration,” Rowan said.

Pristine Dunes Added to Humboldt Bay NWR



A welcome addition. A traditional ribbon cutting marked the addition of Lanphere Dunes to Humboldt Bay NWR. Wielding scissors are (left to right) Friends of the Dunes President John St. Marie, California State Coastal Conservancy Executive Officer Bill Ahern, Region 1 Assistant Regional Director for Refuges and Wildlife Carolyn Bohan, The Nature Conservancy Coastal Area Director Lynn Lozier, and Humboldt County Supervisor John Woolley. Photo by Susan Saul.

The most pristine dune ecosystem on the north Pacific Coast is now part of Humboldt Bay NWR. After 24 years in The Nature Conservancy's care, the 450-acre Lanphere-Christensen Dunes Preserve was welcomed into the northern California refuge with a ceremony in October.

The Lanphere Dunes contain the southernmost stand of coastal beach pine forest, two federally-listed endangered plants, dune hollow wetlands, and rare northern foredune grassland and dune mat plant communities.

Friends of the Dunes volunteers escorted about 75 guests on a half-mile walk through the coastal forest to emerge at the open dune ceremony location overlooking several rare plant communities and the Pacific Ocean. Participants reminisced about how Mrs. Lanphere, the property's former owner, used to defend the dunes from off-road vehicles with her pistol.

Speakers praised the Friends of the Dunes' work to remove non-native plants, and they acknowledged the ecological values of the dunes as an addition to the refuge.

Susan Saul, External Affairs, Portland, Oregon

Cranes Draw Crowds to Bosque del Apache NWR

Around the time of the year when many folks scurry about to prepare turkey dinners for flocks of relatives, flocks of cranes congregate at Bosque del Apache NWR in the Middle Rio Grande Valley of New Mexico. In a floodplain rich with the golden hues of autumn cottonwoods and verdant fields of alfalfa and ripened corn, thousands of migrating waterfowl and sandhill cranes fly, gawk, cackle, swim and feed.

For four days, November 19-22, 1998, the 11th annual Festival of the Cranes, sponsored by the refuge, the city of Socorro, New Mexico, and the Socorro County Chamber of Commerce, drew thousands of wildlife watchers to the refuge to witness the spectacle of these majestic migrants.

"The festival was created to showcase the refuge and its wildlife, and to foster in the local community a sense of pride and participation," said Refuge Manager Phil Norton. "Probably the most popular event every year is the evening fly-in" to the breathtaking spectacle of thousands of sandhill cranes and light geese descending over the marshes of the refuge at sunset, he said.

"It's an unforgettable experience, especially when you add in the burbles of circling cranes calling to their companions on the marsh and the cacophony of the geese. It's just impossible not to be moved by these timeless rituals surrounding migration," Norton said.

Aside from the marvel of such a dense conglomeration of winged wildlife, the festival hosted a diverse array of educational exhibits, demonstrations, programs and workshops. Presenters addressed such topics as birding by ear, which taught identification of birds by their sounds, Native American culture, and local history.

Walking, hiking and vehicular tours provided fun opportunities to learn about birds, wildlife photography, and even archeology—courtesy of a tour of the San Pasqual, San Pasqualito, and Qualaco Piro Indian ruins in an area ordinarily closed to the public.



Friendly gathering. Thousands of cranes and other migratory birds gather at Bosque del Apache NWR each autumn. Photo by Ben Ikenson.

Also during the festival, Recovery Project Leader Dave Parsons discussed the complex scientific and social issues involved in the Service's Mexican Wolf Recovery Project, and fourth generation New Mexico cattle rancher Jim Winder spoke about the benefits of uniting the efforts of ranchers with those of environmentalists.

The refuge seemed an appropriate stage for such a topic, as the staff works closely with local farmers, some of whom sharecrop refuge land to grow corn and alfalfa, two crops used to feed and manipulate the movement of the birds.

Norton pronounced the 1998 crane festival a success.

"Plentiful wildlife and cooperating weather attracted large crowds of mellow, happy folks, to this year's festival, making it a real celebration of nature," he said.

Ben Ikenson, Student Conservation Associate, Albuquerque, New Mexico

Project Leader Remembers Region 1 Employees

Mike Callow and Kathy Cheap, Service employees at the Mid-Columbia River NWR Complex in Oregon, were killed November 6 when their aircraft went down in the Columbia River near Washington state's Hanford Reach. Here they are remembered by their boss, Gary Hagedorn, project leader at the complex.

James Michael (Mike) Callow **June 16, 1948–November 6, 1998**

Mike was a native Missourian, born in Marysville and raised in his home state. He served in the U.S. Navy in Vietnam from 1968 to 1972 and graduated from Missouri State University with a bachelor's degree.

He began his wildlife career in 1976 with the National Park Service as a biological technician and later worked for the Bureau of Reclamation in the late 1970s and 1980s. At the Service's Northern Prairie Wildlife Research Center from 1979 through 1989, Mike worked on several wildlife research projects including waterfowl nesting studies in the Canadian prairie provinces and the Woodsworth Biological Station.

In 1989 Mike went to work at Arrowwood NWR Complex in North Dakota and then served as refuge manager at Squaw Creek NWR in Mound City, Missouri, for seven years before transferring to Oregon as manager of Umatilla NWR in 1998.

Mike was well known for his knowledge and ability in restoration of wetland and native prairie habitats. His strong work ethic and dedication resulted in numerous high quality restoration projects.

The good-natured, always happy attitude he exhibited was contagious and people who worked with and for him appreciated his sense of humor and amiable personality. Mike was a highly principled man who will be greatly missed.

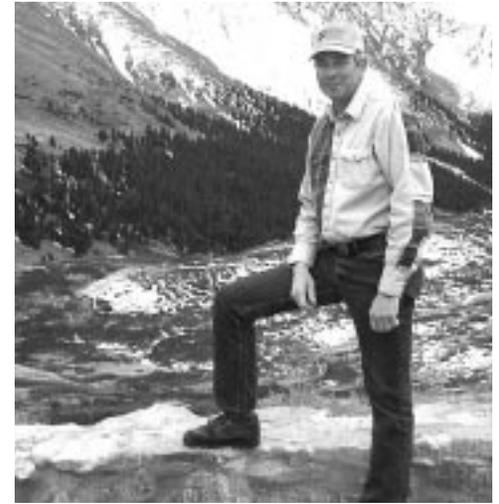


Kathy Cheap. Photo ©Chuck and Grace Bartlett.

Kathleen Mary Cheap **December 11, 1950–November 6, 1998**

Kathy was born and raised in Vallejo, California, and graduated from Vallejo Senior High in 1969. She continued her education at Solano Community College in California, transferring to California State University at San Luis Obispo to obtain a degree in biology and earning a master's degree in wildlife science from New Mexico State University at Las Cruces.

In 1983, Kathy went to work as a biological technician for the National Oceanic and Atmospheric Administration in Beaufort, North Carolina. She came to the Service in July 1984 as a biological technician at Tamarac NWR in Rochert, Minnesota. Later, Kathy held positions as a wildlife biologist for the Upper Mississippi River National Wildlife and Fish Refuge in Winona, Minnesota; refuge manager at Umatilla NWR in Irrigon, Oregon; and most recently as a wildlife biologist for the Mid-Columbia River NWR Complex in Umatilla, Oregon.



Mike Callow at the National Wildlife Refuge Conference in Keystone, Colorado. Photo by David Linehan.

A unique woman with many talents and hobbies, Kathy loved contra dancing and calling as well as horseback riding and was a skilled artist in numerous mediums. She touched so many of our lives and gave us all a piece of her to carry on forever.

Kathy was characterized by her bubbly personality and the passion she exhibited for her work. She lived her life to the fullest.

Gary Hagedorn, Mid-Columbia River NWR, Umatilla, Oregon

Alaska Refuge Blazes a New Trail



Revolutionary trail. *This environmentally-friendly trail floats on Kachemak Bay at Beluga Slough NWR. Photo by Poppy Benson.*

Alaska Maritime NWR recently celebrated the completion of a unique trail, created through a joint effort among the Service, the Alaska departments of Transportation and Natural Resources, and the city of Homer. Students, recreational users and local residents now have a revolutionary floating trail winding through the proposed refuge visitors' center site and onto a city-owned park on the shore of Kachemak Bay.

The 2,500 foot long environmentally-friendly trail offers pedestrians the opportunity to see a saltwater wetland up close while preserving the integrity of the fragile location. The builders made the trail with minimal disturbance to the wetland, which supports waterfowl, shorebirds and cranes, and provides winter feeding for moose.

The new trail is made of polyurethane foam encased in polyethylene plastic, which rises and falls with the Kachemak Bay tides. "One of the incredible things about this trail is that it cost a half a million dollars, and was paid for with Exxon *Valdez* money and state money," Refuge Outdoor Recreation Planner Poppy Benson said. "This trail offers a wonderful opportunity for people to see and appreciate the beauty of Alaska, with an up-close view of the habitat and the wildlife, without hurting anything."

Parts of the Beluga Slough Trail go through a tunnel of fireweed while other parts float on top of saltwater. Located near the commercial center of Homer on the northern shore of Kachemak Bay, it winds through a lower marsh area and a wet upland area and over a saturated wetland flooded by the tides several times a month.

Benson said the refuge plans to break ground on the new visitors' center in 2001, but added that the new Beluga Slough Trail kicked things off. Future plans for the trail itself include a 2,000 foot extension to complete a pedestrian link around the north edge of the slough.

Connie M.J. Barclay, External Affairs, Anchorage, Alaska

Tracing the Decline of Mussels

Although they've been around since prehistoric times, relatively little is known about America's freshwater mussels.

Biologists know that more freshwater mussels live in North America than anywhere else on earth. Mussels don't swim, yet they live under water. Most have beaks, yet they make no sounds. They are harvested commercially and poached illegally from U.S. lakes, rivers and streams, then sold to overseas markets.

Biologists also know that freshwater mussels are among the most endangered species in America. Of approximately 300 species of mussels in the United States, 30 are extinct and 70 are listed as threatened or endangered.

Populations continue to decline for a number of reasons. Impoundments such as dams and locks, water pollution, excessive silt and sedimentation affect mussels. These factors also affect fish, which mussels require as hosts for reproduction.

The accidental introduction of the zebra mussel—an exotic nuisance species—to America's rivers poses a threat to freshwater mussels. Zebra mussels clump themselves to the shells of freshwater mussels, filtering food out of the water before it can reach native mussels and causing them to starve. (See related article, page 16)

As scientists note recent declines in mussel populations throughout the United States, they are paying more attention to the tiny bivalves and learning more about them.

"[Freshwater mussels] are pretty inconspicuous and they don't demand a lot of attention, so they're a pretty easy species to overlook," said Andy Roberts, a Service biologist in Columbia, Missouri. "They're not cute, furry animals, and they aren't very cuddly. But they are ecologically important."

Roberts' office recently brought together a group of regional mussel experts, *malacologists*, to conduct a hands-on freshwater mussel identification workshop. Fifty people, including representatives of the Missouri departments of Natural Resources and Conservation and the Army Corps of Engineers, and private consultants and educators, attended.

continued on next page

Hurricane Georges Damages Habitat in the Southeast



Distinguishing features. Fish and wildlife biologist Andy Roberts (left) explains the identifying features of a freshwater mussel to a participant in a mussel workshop sponsored by the Columbia Ecological Services field office. Photo by Scott Flaherty.

Workshop participants studied the empty shells of 62 Midwestern native mussel species and learned about mussel reproduction and the role of fish hosts. Later they waded through the various sites on the Meramec River in eastern Missouri to identify mussels.

However, identifying different species of mussels is difficult, which makes studying them a challenge. No single feature can be used to identify a particular mussel species; a combination of characteristics—shape, color, hinge teeth, beak sculpture and where the mussel is found—are keys to identifying them.

“Mussels are difficult to identify, there’s no doubt about that,” said Roberts. “You can read about them and look at pictures of them in books, but we’ve found the best way to teach people about mussels is to actually have someone show them the characteristics used to distinguish among them.”

Scott Flaherty, External Affairs, Minneapolis, Minnesota

The good news is that southeastern and Caribbean populations of several endangered and threatened species survived the September onslaught of Hurricane Georges. The bad news is that the effects of the storm on these species will linger because of severe damage to their habitats.

The storm’s most powerful hit targeted one of the three most productive nesting islands of the endangered brown pelican at Breton NWR off Louisiana’s coast. That island, which previously supported more than 7,000 brown pelican nests, is now open water.

“It just ceased to exist,” said Sam D. Hamilton, regional director for the Southeast region. “The topography of the gulf makes the ecosystem extremely susceptible to a significant hurricane like Georges. I am truly impressed by Service employees’ superlative efforts to prepare for the storm and conduct damage control by clearing the tremendous wreckage and muck that Georges left behind.”

A nearby island which also supported more than 7,000 nests was almost completely destroyed. A third island which holds some 2,000 nests sustained minor damage. Most of the remaining suitable habitat is subject to flooding because of its low elevation; increased populations of raccoons, which prey on pelican eggs and young birds, also are a threat.

“Fortunately this year’s nesting season had concluded before the storm,” said Howard Poitevint, project leader for Southeast Louisiana refuges. “Young pelicans had already fledged and had begun to scatter throughout the gulf’s coastal areas, minimizing the impact on the pelicans themselves.”

However, Poitevint expects nesting production by the islands’ pelicans to be low in the foreseeable future unless the birds locate other suitable areas.

At St. Vincent NWR off Florida’s gulf coast, Hurricane Earl earlier this year buried 17 loggerhead turtle nests in the sand. Hurricane Georges buried the last remaining nest of this threatened species under an additional foot of sand.



Storm damage. Besides damaging habitat used by several endangered and threatened species, last summer’s Hurricane Georges caused structural damage to Service facilities such as National Key Deer Refuge. Photo by Barry Stieglitz

In Puerto Rico, the brunt of the hurricane slammed the eastern and southeastern slopes in Puerto Rico’s Caribbean National Forest. The storm spared the valley where most of the endangered Puerto Rican parrot’s breeding activity takes place and where most of the non-breeding flocks reside. Biologists counted 36 surviving of a minimum 40 birds in preliminary surveys after the storm. Although large chunks of flying debris destroyed several parrot cages, most of the wild nests survived.

However, because of severe structural damage to the forest, a planned 1999 release of captive Puerto Rican parrots will be delayed one year to the summer or fall of 2000.

On the mainland, Georges surged through the Gulf of Mexico, leveling dunes, wiping out vegetation and severely damaging critical habitat for the endangered Alabama beach mouse along coastal Alabama. Tidal surges traveling up to 150 meters inland damaged or destroyed more than 2,100 acres of beach mouse habitat in three recovery zones.

Elsie Davis, External Affairs, Atlanta, Georgia

Teams Focus on Ecosystem Approach

If you enjoy the company of shy, retiring people who hesitate to voice their opinions—you should definitely NOT come to a meeting of the Service's Ecosystem Implementation Team!

"This team is raising the most difficult issues, and I think they are serving as a great sounding board and 'reality check' for our progress on implementing the ecosystem approach," says deputy director John Rogers, who leads the team. "They're no rubber stamp for the Directorate and, to put it politely, they routinely 'share' with me when they don't agree with something!"

Formed in June 1998, the team is composed of representatives from across Service programs and regions, and includes several ecosystem team leaders and GARDs. The team's job is to identify barriers and make recommendations that will help the Service more effectively implement the ecosystem approach.

"The team's most important work or goal is to define and provide solutions to the barriers which impact our ability at the field-landscape level to effectively and efficiently manage the trust resources for which the Service is responsible," says team member Randy Cook of the Lower Mississippi River Ecosystem Team.

Fellow team member Don Hultman, deputy chief of the Division of Refuges, agrees.

"The team has developed into an effective forum for not only discussing issues related to the ecosystem approach, but for getting those issues and solutions to the Director for action," Hultman says. "The team is focused on positive change rather than more process. Having the Deputy Director as team chair helps cut through the bull associated with many team efforts and provides an effective conduit to the Directorate."

The Ohio State University group which conducted the ecosystem approach evaluation made twelve recommendations. The Service Directorate acted on one of the recommendations—the organizational structure—and rejected one—the formation of a Landscape Ecology Office in Washington. The remaining ten recommendations are the major focus of the "I-Team's" work.

In its three meetings so far, the team has recommended and initiated actions to strengthen internal and external communications and has drafted guidance on the roles and responsibilities of ecosystem teams and team members. This guidance, based on the experience of successful ecosystem teams, is intended to be of use primarily for ecosystem teams that need to strengthen their function.

The I-Team is coordinating its actions with two additional, separate committees charged with looking at specific ecosystem approach issues—budget and the role of the Washington Office.

The Budget Team, under the leadership of Assistant Director for Administration Denise Sheehan, is examining the most effective way to incorporate the ecosystem approach into the Service's budget process.

"We've heard loud and clear from the appropriations committee staff that they are very comfortable with the programmatic approach to our budget," says Deputy Director Rogers. "Nevertheless the ecosystem teams are identifying important resource needs, and we need to find the best way to include those in our budget planning."

The seven-member Budget Ecosystem Task Force includes representatives from the field, regional offices, and Washington Office. This small group is trying to develop a clear and concise process for ecoteams to identify budget priorities and needs, which the GARDs can use with PARs to formulate regional budget requests. The goals of the planned process are to minimize workload on ecoteams while ensuring their inclusion, and to incorporate ecoteam planning into the existing programmatic budget formulation process. Two members of this group are also members of the Ecosystem Implementation Team, providing excellent liaison and exchange of ideas and perspectives.

Gerry Jackson, assistant director for Ecological Services, is leading the team looking at how the Washington Office can better support the ecosystem approach.

"Each level of the Service is critical to the successful implementation of the ecosystem approach," Jackson says. "The Washington Office stands ready to better support the ecosystem approach by providing increased advocacy at the national level, enhancing communications and coordination and providing increased technical assistance."

Members of the Implementation Team believe one of their greatest values to the agency is to provide a forum for discussion of employee concerns and recommendations about the ecosystem approach. Team members encourage employees to contact them.

Megan Durham, Public Affairs, Washington, DC

Ecosystem Implementation Team Members

If you have issues you would like to raise to the attention of the Implementation Team or the Directorate, forward them to Mamie Parker or any team member.

Kevin Adams	Don Hultman
Roger Banks	Brad Johnson
Tom Bauer	Scott Johnson
John Blankenship	Bob Kraska
Hannibal Bolton	Tony Leger
Randy Cook	Mamie Parker
Kari Duncan	Joe Piehuta
Megan Durham	John Rogers
Nancy Gloman	Pat Sousa
Bill Grabill	Elliott Sutta
Jim Houk	Pam Thiel

Ohio River Valley Ecosystem Team Races Against Zebra Mussel Invasion

On an overcast October morning last year, two Service boats floated quietly over the rich mussel beds off Muskingum Island in the Ohio River Islands NWR. Members of the Ohio River Valley Ecosystem Team braced for the worst as they tracked the movements of divers below by watching their bubbles. Now and again the clanking of heavy machinery broke the silence, echoing from one of the many industrial facilities along the banks.

At last, a Service diver broke the surface and delivered her report.

“Zebra mussels are everywhere,” refuge outdoor recreation planner Janet Butler told waiting biologists and journalists, holding up two large native mussels, each encrusted with a dense mass of zebra mussels. “Every native mussel, every rock, is covered.”

Zebra mussels, native to the Caspian Sea, made their way to the United States as stowaways on ocean-going freighters. Once established, the invasive pest expanded into the Ohio River, probably hitching a ride on one of the many coal-laden barges like those that steamed slowly past the anchored Service boats that crisp fall day.

The divers continued their work, carefully marking off sections of the mussel beds and sending basket after basket of encrusted native mussels to the biologists waiting topside. In the boat, a crew from the Service, the Ohio Division of Wildlife, the Ohio Biological Survey and the West Virginia Department of Natural Resources sorted through the mussels, identifying such native species as pimpleback, monkeyface, and pocketbook mussels.

On the beach, another group scraped, counted and weighed zebras to determine the extent of the infestation in the mussel bed, home to 28 different pearly mussel species, two of them federally listed. Once tallied, the results were bleak. The zebra mussel population had expanded by more than 2,000 percent in less than 12 months.

A year prior, most recovered native mussels had a handful of zebras attached, but most of the natives rescued this day were smothered with 40 or more, and some had more than 150 zebras clinging in thick, gristly clumps.

“These native mussels are going to have a stressful winter,” said Service biologist Patty Morrison softly.

Scott Schell, with the Ohio Division of Wildlife was less optimistic. “It looks like we’re going to lose these mussel beds,” he said.

Freshwater mussels are America’s most endangered group of species—biologists estimate that more than two thirds of them are imperiled to the point of warranting federal protection. Poor water quality, dams and channelization have contributed to the decline of most mussel species—and the arrival of the zebra mussels threatens to deliver the knockout punch to many.

But the crew on the river was out do more than survey the losses—it was on a rescue mission. Working from a “hit list” developed by the Ohio River Valley Ecosystem Team, the biologists identified vulnerable species to be removed from the river. Federally listed mussels were sent the USGS-BRD Science Center in Leetown, West Virginia, and the rest were sent to the federal hatchery in White Sulphur Springs, West Virginia.

Moving the Natives Out of Harm’s Way

“Invasive species populations tend to peak quickly, and then subside dramatically before stabilizing, even without control efforts,” said Kari Duncan, manager at White Sulphur Springs NFH, as she used a tube of super glue to tag pearly mussels for quick identification later. “If we can successfully hold a sufficient number of vulnerable species in refugia, we are optimistic about an opportunity to reestablish them in the wild at some point in the future.”



Exhibit Crosses Regional and Program Boundaries

The Great Lakes Ecosystem Team has developed a bi-regional exhibit on Service programs in the Great Lakes ecosystem which covers portions of regions 3 and 5. Since its initial development in 1997, the exhibit has delivered the Service message at the 1998 State of the Lakes Ecosystem Annual Conference in Buffalo, New York; served as a backdrop for a press conference at the Rayburn House Office Building in Washington, DC; and been the main attraction in the new, cooperatively managed Northern Great Lakes Visitor Center.

Field stations in both regions have repeatedly demonstrated their commitments to getting the Service message to as many people as possible by volunteering to transport, set-up and staff the exhibit.

The exhibit features different three-dimensional props and artifacts gathered by field offices. These can be switched to represent field stations from any geographic area within the ecosystem, and personalize the exhibit’s message.

Joan Guilfoyle, External Affairs, Minneapolis, Minnesota

Mapping Our Ecosystem Boundaries

“We have about 66 percent survival right now overall, which is quite good considering just how new this line of research is. For some species, it’s much higher,” said Keith McGilvray, a biologist at the hatchery, as he carefully placed trays of newly arrived mussels in the holding pond.

White Sulphur Springs is a federal broodstock facility and provides trout eggs to other federal, state, and private fish culture facilities. With assistance from researchers at Virginia Tech, world leaders in propagating freshwater mussels, the hatchery has set aside several ponds to hold the mussels out of harm’s way, with an eye towards propagation and eventual reintroduction.

“Mussels need fish hosts at early stages in their lifecycles, so a hatchery is a natural facility to begin experimenting with reproduction,” Duncan said.

Dr. Tom Watters, a mussel expert with Ohio State University who contributes to the rescue effort, underscored the urgency of the team’s efforts. In August 1998, he led a team of researchers that documented complete extinction of native mussels in western Lake Erie just ten years after the first zebras were discovered in those waters.

It’s a race against time, but the Ohio River Valley Ecosystem Team and its partners are in high gear.

*Eric Eckl, Public Affairs,
Washington, DC*

If you’ve ever looked for a map of Service ecosystem boundaries, you know the problem—an up-to-date ecosystem map simply doesn’t exist. As a result, the Service is now working on creating a clear and concise map to illustrate those boundaries.

According to National Geographic Information Systems Coordinator Deb Southworth, the only current map of the ecosystem boundaries is a very generalized graphic originating from a 1:7,000,000 scale map. Because of this format, the data cannot be combined with other Service information such as station locations. The small scale also makes it difficult to distinguish precise boundary locations.

“We are working to create a documented, standardized ecosystem boundaries data layer that can be utilized in GIS as well as in various outreach applications,” Southworth said. “This data layer will provide a consistent illustration of ecosystem boundaries to Service staff and our external partners.”

It will also contain updated information incorporating changes that several regions have made to their ecosystem boundaries in the years since the original map was created.

Using GIS to create the new data layer will simplify future updates, according to Southworth. All regions, through their Service GIS Steering Committee representatives, have supplied her with updated information on their ecosystem boundaries.

“We still need to resolve data incompatibilities in order to complete the standard data layer,” she said. “These issues include regional differences in ecosystem names from the original national list and questions on jurisdiction when ecosystems cross regional boundaries.”

Currently the Service does not have a national ecosystem coordinator. Southworth plans to work with the regions, the national implementation team for the ecosystem approach and the Directorate to reach an agreement on any differences in boundaries.

When the coverage is complete Southworth will circulate it for review as a proposed Service data standard. The final data layer will be available to all Service employees and external partners through the Service’s Internet site. This coverage will be in a standard data format with documented data content and geographic coordinates.

Employees and partners may use it to produce accurate paper maps of ecosystem boundaries or easily converted to a variety of graphic formats for publication.

In addition, and perhaps more importantly, Southworth indicated that the coverage may be used with other geographic data layers such as flyways, endangered species locations and refuge boundaries to develop strategic and project plans, and to document issues and successes in ecosystem management.

You may view the Service’s original ecosystem map at <http://refuges.fws.gov/NWRSFiles/Graphics/MapGIFs.html>.

*Rachel F. Levin, Public Affairs,
Washington, DC*

*Deb Southworth, Information Resources
Management, Denver, Colorado*

Students Use Internet to Tackle Moose Mystery

Thanks to their own World Wide Web page, two Minnesota radio-collared moose cows known as "B8164" and "D0982" have become the most popular critters in Region 3.

B8164, captured and collared by researchers in January 1996, lives at Agassiz NWR in northwest Minnesota. D0982, captured in March 1997, is from the Minnesota Department of Natural Resources' Red Lake Wildlife Management Area. Previously, these popular moose were well known to students at Minnesota schools participating in the Adopt-A-Moose program. Now, as a result of their Internet exposure, the animals' popularity has expanded nationwide.

The Service and the Minnesota Department of Natural Resources initiated Adopt-A-Moose in 1996 to promote awareness of and support for solving the mystery of declining moose numbers in northwest Minnesota. Local businesses, sporting and conservation groups, and individuals sponsored moose by contributing \$400 each—the cost of a radio collar—to the research effort.

Since 1995, more than 88 partners have contributed to the program, providing more than \$50,000 toward the purchase of moose collars and helicopter capture of animals.

Currently, 93 classes—about 2,700 students—and 30 sponsors participate in the Adopt-A-Moose program. As the project grew in size, Maggie Anderson, manager of Agassiz NWR, and Gretchen Mehmel, manager of the Red Lake Wildlife Area, began to explore the possibility of establishing a home page to allow an interactive method of following the moose research project. Soon after, the Minnesota Moose Mystery page became a reality.

The moose mystery home page has become the most popular on the Region 3 website, drawing a record 325,000 hits to the region's home page in one month, according to Region 3 Webmaster Larry Dean.

With the help of a challenge grant issued by the National Fish and Wildlife Foundation, the new home page is now on-line and all Minnesota students and Internet users have access to the study. The page offers the history of moose in Minnesota, outlines ongoing research and tallies the results of the research project.



Moose mystery. *Biologists have captured and radio-collared more than 150 moose as part of a study on moose mortality in Minnesota. Visitors to the Region 3 home page may track the movements of two of those moose. Photo ©Bill Silliker, Jr.*

The site, which traces the travels of B8164 and D0982 from the time of their capture to the present, also offers habitat photos, video of a helicopter net gun moose capture, interviews with biologists and audio of a cow moose.

Thanks to thousands of volunteer hours, equipment donations from private companies, and cooperation from private landowners, the research project is beginning to provide answers to the moose mystery. Since 1995, more than 155 moose have been radio collared; of these, 55 have died. Most revealing from a research standpoint were the causes of death—33 adults and 14 calves perished from disease, parasites or starvation.

While researchers have not been able to pinpoint the exact cause of the population decline, they have eliminated some possibilities, such as bear and wolf predation.

Those interested in the research project may access the new moose page at <http://www.fws.gov/r3pao/agassiz/moose.html>.

*Dan Sobieck, External Affairs,
Minneapolis, Minnesota*

Quiet on the Set! Hollywood Invades Patuxent Refuge

Hollywood came to southern Maryland last fall when Patuxent Research Refuge served as the set for a movie starring Harrison Ford.

The star of "Raiders of the Lost Ark" and "Patriot Games" took time out from filming the movie, "Random Hearts," to shoot a video public service announcement on behalf of the National Wildlife Refuge System.

Despite fears that a movie crew would be difficult to work with, staff at Patuxent welcomed the opportunity (and challenge) to catch a bit of "Hollywood fever." It all began with a phone call from Random Hearts Productions at Columbia Pictures, looking for a site to film a portion of a movie. The company said it would need a total of seven weeks to construct a log cabin on the refuge, film for six days and tear down the set.

The only major snag: the producers proposed to film in the middle of hunting season.

After the company agreed to work around hunting schedules on the refuge, negotiations got underway. They required several site visits by the film's producers; phone calls back and forth between the East and West coasts; consultations with the Interior Department's solicitors and other regional and Washington Office personnel; and issuance of a detailed Special Use Permit to cover as many contingencies as could be considered.

The refuge site to be used was an established primitive camping area that had already been disturbed and had its own parking area. Nearby areas accommodated the myriad trailers that moved in to support the actors, directors, crew and caterers.

Construction on the cabin that was to be the set proceeded smoothly. Daily clean-up of the site kept potential habitat impacts to a minimum and all seemed to be moving along swimmingly, but Mother Nature had her own thoughts. When it was time to begin filming, the leaves hadn't yet turned their vibrant reds, yellows and oranges! The company delayed filming until the foliage cooperated.

Poaching Duck Eggs Costs Fugitive Big Money

Harrison Ford and his British co-star, Kristen Scott Thomas, arrived on the scene with little fanfare. Refuge staff conducted periodic site checks during the course of the filming and found Ford to be very amiable.

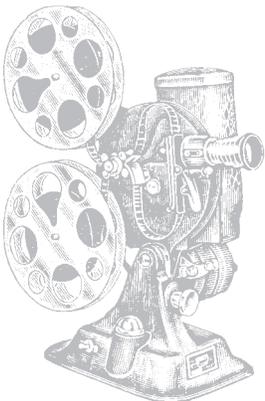
Encouraged by Ford's willingness to interact with visitors, Patuxent wildlife biologist Nell Baldacchino spoke with the actor's staff about filming a public service announcement for the refuge system. A few phone calls and discussions later, staff from the Service's Public Affairs office and the National Conservation Training Center traveled to the refuge to film the spot.

The excitement of the "Hollywood invasion" at Patuxent is now just a memory. The movie site, now cleaned up and restored, is in even better condition that it had been; the habitat was improved by planting some additional shrubbery.

However, the glow of serving as a movie set will not soon fade. Some staff members and volunteers have pictures of themselves with Harrison Ford. Random Hearts Productions recently made a sizeable donation to the Friends of Patuxent to help expand environmental education activities. And most importantly, the refuge system gained a new outreach tool and a few new friends.

Patricia Nagel, Patuxent Research Refuge, Laurel, Maryland

Rachel F. Levin, Public Affairs, Washington, DC



Examining the contraband. *After arresting alleged duck egg smugglers during Operation Duck Soup, Service law enforcement agents found themselves surrogate parents to dozens of eggs and hatching chicks. Photo by Connie M.J. Barclay.*

Service law enforcement agents in October closed the book on a fugitive who fled the United States six years ago to avoid prosecution in an illegal Alaskan duck egg collecting case.

Fish & Wildlife Service agents also closed Operation Duck Soup, a two-year cooperative undercover investigation with the Canadian Wildlife Service, when the fugitive, Joe Sidney Vandenberg, turned himself in and pled guilty to four misdemeanor violations of the Migratory Bird Treaty Act.

A judge ordered Vandenberg, 45, of Canada, to pay restitutions in the amount of \$50,000 and a criminal fine of \$20,000, and sentenced him to two years probation. Vandenberg also forfeited his original \$50,000 bond because he fled the country.

A successful aviculturist, Vandenberg was first arrested in the summer of 1992 as part of Operation Duck Soup as he tried to leave Alaska with 78 exotic duck eggs packed in egg cartons warmed with hot water bottles. He had collected the eggs from their nests on the North Slope; under his collectors permit, Vandenberg was allowed to possess no more than 27 eggs. It is also illegal to sell eggs collected from the wild.

According to Service agents, the 78 eggs found in Vandenberg's cooler when they arrested him would have netted him more than \$100,000 on the black market.

Vandenberg surrendered his passport and paid a \$50,000 cash bond in U.S. District Court in Anchorage. He then fled the United States and remained a fugitive until his attorneys contacted the Service last July.

The two-year Operation Duck Soup investigation targeted aviculturists such as Vandenberg who obtained government permits to take wild bird eggs for their private collections but violated the permits by taking more eggs than authorized, operating in closed areas, and/or selling fledglings to exotic bird collectors around the world, particularly to wealthy Europeans.

According to Service agents, there can be big money in selling rare ducks. Waterfowl born and raised in captivity by licensed breeders can lawfully be sold, but birds and eggs taken from the wild cannot.

Connie M.J. Barclay, External Affairs, Anchorage, Alaska

Southwestern Trout on the Move



Unendangered. *The Apache trout, a threatened species, nears the threshold of delisting.* USFWS photo.

Our southwestern trout species, the Apache and Gila trout, are on the move—literally.

The Apache trout, listed as threatened, is near recovery and may soon be delisted thanks in large part to the hard work of the Fisheries field stations in Arizona. The Arizona Fishery Resources Office, White Mountain Apache Tribe, Arizona Game & Fish, Pinetop Fish Health Center, and Williams Creek NFH, assisted by the New Mexico Fishery Resources Office, recently moved Apache trout back into historic habitat. Eighty-nine fish up to nine inches long now reside in Ord Creek on the Fort Apache Indian Reservation.

Taken from a remote refugia stream on the Kaibab National Forest, the trout were packed out by livestock, trucked to an Arizona Game & Fish hatchery and temporarily held until fish health center biologists ensured the fish were in good health. A hatchery truck transported the trout to Ord Creek for release.

“After three decades, we’re happy to see this fish return to its native habitat,” said Daniel Parker, a White Mountain Apache tribal member and an Arizona Fishery Resources Office biologist.

Parker and his colleagues have good reason to celebrate: the Apache trout recovery plan calls for 30 self-sustaining stream populations before delisting can occur, and Ord Creek may be number 29. The larger fish will be ready to spawn this spring, giving this population a head start in getting established. All trout were marked so biologists can measure their dispersal and long-term survival.

“The Apache trout is on the brink of recovery,” said Stewart Jacks, project leader at the Arizona Fishery Resources Office. “We’re working hard to get this fish delisted. Thanks to the help of eager cooperators, that goal is on the near horizon.”

Just across the border in New Mexico, recovery of the endangered Gila trout moves forward as well. Beset by recent natural calamities—fire, flood and drought—Gila trout recovery efforts took a turn for the better when a forest fire eradicated non-native trout from a wilderness stream. The New Mexico Fishery Resources Office seized the opportunity and readied the Black Canyon stream for the return of native Gila trout.

Several private angling groups and volunteers marshaled their resources and built a barrier—a small waterfall—funded by Federal Aid monies to keep non-native trout from moving upstream. Mescalero NFH in New Mexico produced several thousand fingerlings from their Gila trout broodstock.

Assisted by staff from the Gila National Forest and the New Mexico Department of Game & Fish, an unprecedented 13,000 fingerlings made their way to Black Canyon. Panniers of cold water draped across the backs of mules carried the Gila trout well into the headwaters. Fishery biologists remarked that not a single mortality occurred on the way in, and the young trout swam away upon release.

Barry Wiley, the New Mexico Fishery Resource Office’s Gila trout coordinator, praised the cooperative effort.

“We’ve worked hard just to get back to square one from floods and fires,” said Wiley. “Black Canyon offered a rare opportunity and it’s resulted in the largest reintroduction effort to date. We’re about one stream away from downlisting. A couple of years from now, folks may be talking about how to fish for Gila trout.”

Craig L. Springer, Division of Fisheries, Albuquerque, New Mexico

Children See “Partners” in Action



Joint effort. *Second graders learned about wetlands and the wildlife that depend on them at Kimberly de Castro’s ranch, the site of a Partners for Fish and Wildlife project. Photo by Ben Ikenson.*

A schoolbus filled with elementary school students tottered along a desolate dirt road toward Kimberly de Castro’s ranch, about 30 miles southeast of Santa Fe, New Mexico. On either side of the road that sunny October morning a thin layer of blue gramma grass shimmered in the breeze.

De Castro, Service biologists Chuck Mullins and Marcelle Francke, New Mexico Game & Fish Department biologist Jennifer Jeffers, and a professional videographer greeted the children as they arrived.

A small business owner, de Castro was among nine winners of the Service’s 1998 National Wetlands Award, created to recognize individuals who have demonstrated extraordinary effort, innovation and excellence in wetland conservation.

De Castro has for several years participated in the Service’s Partners for Fish and Wildlife program, which provides cost-sharing and technical assistance for restoration and enhancement of fish and wildlife on private lands. Since its inception in 1990, in cooperation with other agencies and organizations, the program has helped to restore or enhance 16,430 acres of wildlife habitat, including 9,527 acres of wetland habitat.

When she bought her property, de Castro saw evidence of overuse by domestic livestock. Two wetlands had been severely degraded by past mismanagement. Because of their value for diverse wildlife from migrating waterfowl to resident deer, enhancement of the wetlands was one of de Castro’s top priorities.

“Wetlands are a vital part of the ecology in the desert Southwest; they are rare sources of water for innumerable plant and animal species,” she said.

Through the Partners for Fish and Wildlife program, de Castro planted more than 5,000 trees and shrubs, drilled grass seed throughout her property, placed tons of straw bales with grass seed in her eroded “hot spots,” and designed and placed more than five miles of a drip irrigation system to ensure success for her planting.

The Partners project on de Castro’s property is three years old and has cost approximately \$40,000. The Service, the Department of Agriculture’s Stewardship Incentive Program and Phillips Petroleum helped fund the restoration.

In the midst of her newly flourishing land that autumn day, de Castro was quick to point out that “our most important resource is our children. . . . To ensure the long term health of habitat, and of the environment in general, the seed of knowledge must be planted in the fertile soil of our children’s minds.” With that in mind, she hosted the 22 second graders, classmates of her daughter, Jenna, and invited the biologists along to explain the importance of wetlands.

De Castro and her young visitors also will be featured in a video about the Partners program. The National Conservation Training Center is producing the video, which biologist Mullins hopes will “drum up some more support for Partners.”

Ben Ikenson, Student Conservation Associate, Albuquerque, New Mexico

Video Spotlights Eagle Repository



On the wing. *The Eagle Rising video and brochure explain the importance of eagles in Native Americans culture and describe how the National Eagle Repository processes requests for eagle feathers and parts. Photo by Tami Heilemann.*

Eagle Rising, a new 22-minute Service video, takes an in-depth look at the operations of the National Eagle Repository in Denver, Colorado. Aimed at Native Americans, wildlife professionals and the general public, *Eagle Rising* explores the spiritual and cultural significance of the eagle to Native Americans and explains how the Service and repository staff go about the exacting work of distributing eagle feathers and parts (as well as other birds and their parts) to Native Americans on a first-come, first-served basis for religious use.

The video outlines the procedure Native Americans go through to obtain an eagle, depicts repository staff fulfilling requests, and details steps state, federal and local wildlife officials should take to send recovered dead eagles to the repository to help meet the growing backlog of Native American feather requests.

Preview copies of *Eagle Rising* have been well received by both wildlife and Native American groups and the Bureau of Indian Affairs purchased and sent a copy to every federally-recognized tribe. Copies of *Eagle Rising* (and of a new brochure on the repository) can be obtained by contacting the Service’s Native American Liaison, Duncan Brown at 202/208-4133, or via e-mail at Duncan_L_Brown@mail.fws.gov.

Phil Million, External Affairs, Washington, DC

ACE Basin Celebrates a Decade of Cooperation

More than 150 private landowners and conservation partners gathered under the stately oaks of the Grove Plantation at ACE Basin NWR in South Carolina last fall to celebrate 10 years of conservation successes based in public/private partnership.

Established in 1988 through the North American Waterfowl Management Plan, the ACE (Ashepoo, Combahee and South Edisto rivers) Basin Task Force, a coalition of public and private partners, now permanently protects more than 130,000 acres, in part through the refuge. The basin is one of the largest undeveloped estuaries on the East Coast and supports myriad endangered and threatened species including bald eagles, osprey, loggerhead sea turtles, and shortnose sturgeon.

The ACE Basin has thrived using a partnership approach between the Service, private landowners in the basin, the South Carolina Department of Natural Resources, Ducks Unlimited and the Nature Conservancy. The task force was one of the first public/private ventures in which the Service was involved.

From the beginning, partners recognized that the project's success depended on the willingness of the private landowners to protect their properties. The primary methods of protecting property in the basin have been making voluntary conservation easements on privately owned lands, providing wildlife habitat management assistance for private landowners, and purchasing key parcels for public lands such as the refuge. More than 70,000 acres of the habitat the task force protects are still privately owned.

The ACE Basin project has inspired similar projects around the South Carolina coast and in other areas of the country, according to Southeast Regional Director Sam Hamilton.

"We are applying the lessons we learned here to other wildlife refuges and areas where there is potential to develop public and private partnerships," he said.

Donny Browning, ACE Basin NWR, Hollywood, South Carolina

Bozeman Facility Hosts Budding Scientists



A lasting impression. Students from the Bridger Outdoor Science School make plastic molds of animal tracks as part of their annual visit to the Bozeman Fish Technology Center. USFWS photo.

For two days last September, humans may have outnumbered the fish at Bozeman Fish Technology Center in Montana.

More than 200 sixth graders, their teachers, parents and staff from the Bridger Outdoor Science School in Belgrade, Montana, descended on the center for a "hands-on" learning experience.

Known as the Bridger Environmental Education Program, this annual event provides an opportunity for kids to learn about fish, wildlife, and outdoor skills such as tracking, orienteering, geology, teamwork and even panning for gold.

"It's an opportunity for the tech center to contribute to the community," said Center Director Greg Kindschi. "We're close to the town and the grounds are large enough, with streams and varied terrain, so we can host a lot of kids doing a bunch of different activities at once."

"It's not everyday that kids get to see unusual species such as sturgeon and chubs," added Bozeman Hatchery Manager Ron Zitzow as he took a group of giggling, wide-eyed students on a tour of the labs and ponds.

"The outdoor experience for kids leaves a lasting impression and if they're having fun while they're learning, they pay attention and remember what was talked about," said Bridger School Director Bobbi Geise.

The kids rated panning for gold as their favorite activity, and for next year recommended educational stations on survival skills, photography and outdoor cooking; a treasure hunt; plant identification; and a hike up to the "M" rock landmark (for Montana State University) that towers approximately 1,000 feet on Baldy Mountain above the fish technology center.

Eric Eckl, Public Affairs, Washington, DC

Once Thought Extinct, Rare Fish Rebounds

For 122 years the robust redhorse was believed to be extinct. Then in 1991, biologists from the Georgia Department of Natural Resources discovered this sizable fish species in the Oconee River near Toombsboro, Georgia. Scientists estimated that this population remnant, surviving along a 70-mile stretch of river, numbered as few as 2,000. Today more than 27,900 hatchery-reared robust redhorse have been introduced into Georgia rivers.

In the 1870s, the robust redhorse, which can measure 30 inches in length and weigh 17 pounds, was believed to have existed in large numbers in the then-pristine rivers of Georgia and the Carolinas. Remains of the species found at archeological sites in the Southeast indicate that it was an important food source for Native Americans and perhaps early settlers.

The past 100 years of human settlement and industrial development in the Southeast has resulted in extensive erosion and sedimentation of rivers and streams, as well as damming of waterways and the extensive muddying of once-clear waters, affecting species such as the redhorse which migrate to shallow river areas covered with clean gravel spawning sites to protect eggs and developing larvae.

The introduction in the 1960s and 1970s of the flathead catfish, a voracious predator, also contributed to the decline of the robust redhorse.

When biologists studied the newly discovered redhorse population, they found it consisted almost entirely of older adults. Redhorse can live for as long as 26 years, longer than most other freshwater species. The advanced average age of these survivors indicated that the redhorse's reproductive rates were poor.

In 1995, various federal and state natural resources agencies, along with a variety of industrial and academic interests, established the Robust Redhorse Conservation Committee to study the fish's decline, attempt to re-establish it at a sustainable level in its former range, and recover the redhorse to avoid placing it on the endangered species list. The Georgia Department of Natural Resources coordinated the restoration efforts.

Fisheries biologists began to ship fertilized eggs from the Oconee River to Warm Springs NFH in Georgia. Beginning in 1995, they stocked some 25,000 fry in state hatcheries in Georgia and South Carolina. The redhorse thrived and eventually were released as fingerlings into several Georgia rivers. Other fingerlings were held at Service facilities for study and to serve as a backup population.

*Tom MacKenzie, External Affairs,
Atlanta, Georgia*

Get to the Heart of the Matter

In an effort to make the federal government "more responsive, accessible, and understandable in its communications with the public," President Clinton last fall directed agencies to begin using plain language in most documents.

In a memo to the head of executive departments and agencies, President Clinton said, "By using plain language, we send a clear message about what the government is doing, what it requires, and what services it offers. Plain language saves the government and the private sector time, effort and money."

Although plain language requirements may vary from one document to another depending on the intended audience, all plain language documents should have logical organization and easy-to-read design features, and use:

- common, everyday words, except for necessary technical terms;
- "you" and other pronouns;
- the active voice; and
- short sentences.

To ensure the use of plain language, all department and agency heads must meet several deadlines for implementing the policy:

- By October 1, 1998, plain language must be used in all new documents, other than regulations, that explain how to obtain benefits or services or how to comply with requirements agencies administer or enforce.
- By January 1, 2002, all such documents created prior to October 1, 1998 must also be in plain language.

continued on next page

Get to the Heart of the Matter (continued)

■ By January 1, 1999, plain language must be used in all proposed and final rulings published in the *Federal Register*, unless the agency proposed the rule before that date. Agencies are to consider rewriting existing regulations in plain language.

The National Partnership for Reinventing Government issued guidance to help agencies comply with the directives and to explain more fully the elements of plain language, and also recommended using customer feedback and common sense to guide plain language efforts.

To help Interior employees comply with the plain language requirements, John Strylowski of the Secretary's office leads a course in the basics of plain language. He leads employees through exercises which require them to rewrite wordy, hard-to-understand passages into "plain English" using the President's guidelines.

Federal employees who write outstanding examples of plain language letters, notices, rules or other public communication documents may be awarded Vice President Gore's "No Gobbledygook" award.

For more information on the President's plain language requirements, see the plain language Web site at <http://www.plainlanguage.gov>.

*Rachel F. Levin, Public Affairs,
Washington, DC*

Making Lake Erie Islands "Snake-friendly"



Friends of snakes. (Left to right) Melissa Hathaway of the Ohio Division of Wildlife, Kent Kroonemeyer of the Service and June Anderson, a resident of Kelley's Island, show off a sign highlighting the plight of Lake Erie water snakes. Photo by Joan Guilfoyle.

In a unique effort to alert people to the plight of an oft-unloved creature, the Service has been working cooperatively with the Ohio Division of Wildlife, the Kelley's Island Audubon Society, the Erie Islands Historical Society and others to inform and educate shoreline landowners, island business owners and day-tripping tourists about the value of the Lake Erie water snake to the Erie Islands' ecosystem and natural heritage.

The four-year outreach program has included school poster-drawing contests, snake-viewing field trips and programs, a poster and brochure, exhibits at local festivals and events, and regular news releases to reach residents and visitors on four islands in western Lake Erie. Local communities have greatly increased their support for the snake protection effort. In early 1998, the outreach team created an outdoor sign reading "Water Snakes Welcome Here: Help Us Save the Rare Lake Erie Water Snake, A Unique Part of Our Island Heritage."

The Service quickly distributed the first 200 signs and residents posted them at boat docks and restaurants, on front lawns, in state parks, and even on the back of golf-carts (a common form of island transportation). Two island mayors offered to post snake signs on all public access roads.

The sign's message, which also included the plea "Please do not kill or harass this non-poisonous snake," applauded conservation-minded residents and encourage continued community support for the snake. Kent Kroonemeyer, field supervisor of the Ecological Services field office in Reynoldsburg, Ohio, presented signs at the Northeast Ohio Mayors and Managers Association, where 100 representatives of local governments heard the story of the snake and how important community support is to long-term conservation. Voluntary agreements and an endangered species fact sheet were included with each sign.

Plans for permanent exhibits are underway at two visitors centers on the islands, as well as temporary exhibits for a variety of public festivals in 1999.

*Joan Guilfoyle, External Affairs,
Minneapolis, Minnesota*

Newest Hatchery Raises Rare Fish



New addition. *Larry Shanks of Ouray NWR and Tom Pruitt, manager of the new Ouray NFH, survey the 36 ponds adjacent to the hatchery building. Photo by Connie Young.*

Located on Ouray NWR in eastern Utah, the recently dedicated Ouray NFH is one of 66 Service national fish hatcheries and one of only five hatcheries whose sole mission is to raise endangered fish.

The hatchery will raise primarily razorback suckers, along with smaller numbers of endangered Colorado squawfish, bonytails and humpback chubs. These four fish species are found in the Colorado River basin—and nowhere else on earth.

The 65-foot by 150-foot hatchery building is equipped with about 100 fiberglass tanks and troughs. Once full-fledged hatchery operations begin, the Service will use the tanks to raise endangered fish for stocking, education and research.

“Most of the razorback suckers left in the wild are very old adults,” Ouray Hatchery Manager Tom Pruitt said. “At this hatchery, we will be able to raise juvenile and young adult fish. Once these young fish are 12 to 16 inches long, they can be stocked in the river and hopefully will begin reproducing.”

Excavation of the 36 outdoor ponds adjacent to the hatchery building began in 1992. Completed ponds held razorback suckers, Colorado squawfish and bonytails as early as 1994.

“The hatchery was built here because this area is prime habitat for the razorback,” Pruitt said. “Also, we will have heated water in the indoor tanks, which will be used to trigger the fish to spawn. The large number of tanks allows us to raise separate groups of fish from different parents, providing the kind of genetic diversity needed for survival in the wild.”

The largest sucker in North America, the razorback is believed to have evolved some 4 million years ago.

Mike Stempel, a fisheries official from the Service’s Denver office, said that restoring these fish species is just one aspect of maintaining an interconnected river ecosystem.

“Restoring habitat for these fish is one of the most important aspects of recovering them,” Stempel said. “When the ecosystem is healthy for the fish, waterfowl populations are also up, upland game populations are up, and deer and elk populations are up.”

Connie Young, Upper Colorado River Recovery Program, Denver, Colorado

Job Corps Students Experience "Firsts" in Washington



Lorina Cathy flew on an airplane for the first time last fall.

Cathy, a student at the Treasure Lake Job Corps Center in Indianahoma, Oklahoma, joined fellow student government officers from Mingo and Treasure Lake Job Corps centers for a week in Washington, DC, at the Service's Student Government and Leadership Conference, October 5-9.

The students enjoyed leadership training conducted by LaDonna Tramble, a Job Corps graduate who is a founding member of the National Job Corps Alumni Association and president of the Denver chapter. The students participated in a variety of team-building exercises designed to foster a cooperative and respectful spirit.

Yet another monumental event in the students' lives came as they met someone not many visitors to Washington, or even the Interior Department, have the opportunity to chat with: Secretary of the Interior Bruce Babbitt. The students had a photo opportunity with Babbitt and were thrilled to meet him.

Babbitt reaffirmed his belief in the benefits of the Job Corps program. "The Job Corps program does great work with America's young people," he said.

An exciting "first." Job Corps students met with Interior Secretary Bruce Babbitt during their visit to Washington, DC, for the Student Government and Leadership Conference last fall. Photo by Kerry Hinton

The student leaders also for the first time had the opportunity to discuss the purpose and mission of the Service with Deputy Director John Rogers. Students asked questions on topics such as listing an endangered species.

Next, National Job Corps Director Mary Silva listened to suggestions about improving life at Job Corps centers and how to get more young people into the program by placing more advertisements in newspapers, on the radio and on television. The students also suggested that the Job Corps program invest in providing videos for each center as a recruiting tool.

The students visited Capitol Hill, enjoying photo opportunities with their Congressional representatives, Senator Don Nickles, Senator James Inhofe and Congressman J.C. Watts from Oklahoma, and Senator Christopher "Kit" Bond and Congresswoman Jo Ann Emerson from Missouri.

These ambitious student leaders returned to their centers full of renewed excitement and motivation, as well as some great stories to tell their friends about their four days of "firsts" in the nation's capital.

Kerry Hinton, Job Corps Program, Washington, DC

Tanzanian Officials Tour Arizona Refuge

The Southwest region last fall hosted four Tanzanian wildlife and park officials as part of a U.S. Agency for International Development natural resources management project.

The four, including two Tanzanian national park superintendents, an official from the African Wildlife Foundation, and a government environmental official, toured Cabeza Prieta NWR, learning about endangered species such as the Sonoran pronghorn, wilderness areas, refuge hunting policies, and other management issues.

"The tour was a great success," said Refuge Manager Don Tiller. "We discussed and compared management schemes of refuges and African parks. We were very similar in some respects but they were amazed that we did not have as much wildlife roaming the Cabeza as they are used to. The climate is very similar, too."

Since January 1998, EPIQ/Tanzania has been operational as part of a contract with the Global Bureau of USAID to serve the needs of that agency's Tanzania's Strategic Objective in Environmental and Natural Resources Management. Working with four national parks, game reserves, and coastal zone and community-based conservation efforts in Tanzania, the program seeks to link conservation of biodiversity with sustainable development.

Collaborating partners include the Interior Department, the Peace Corps and the World Wildlife Fund.

"This is a great example of an international exchange of ideas," said Southwest Regional Director Nancy Kaufman of the program. "When it comes to conservation, there are no boundaries."

Ben Ikenson, Student Conservation Associate, Albuquerque, New Mexico

Effort to Establish Red Wolves in National Park Comes to an End

The Fish & Wildlife Service and the National Park Service last fall announced a joint decision to end the eight-year effort to restore a wild population of red wolves in the Great Smoky Mountains National Park, located in North Carolina and Tennessee. The two services made the decision because of extremely low pup survival and the inability of wolves to establish home ranges within the park.

This decision does not affect the Fish & Wildlife Service's more successful population of reintroduced red wolves in northeastern North Carolina. Fifty to 100 red wolves are in that population.

"Our goal for the recovery includes establishing at least three self-sustaining wild populations, one of which we had hoped would be in the park," said Service Southeast Regional Director Sam D. Hamilton. "Establishing a reintroduced population of red wolves depends on the released animals producing wild offspring that survive to replace natural mortality and increase the population; unfortunately this did not occur."

"Of 28 pups known to be born in the wild and not removed, we don't know of any that have survived their first year, so we no longer expect to achieve the recovery goal in the park," Hamilton said.

Project biologists are not certain what caused the high pup mortality. Newborn pups are too small to wear the radio-tracking collars used to monitor adult red wolves, so only a few pup carcasses could be located and examined. Biologists, however, suspect disease, predation, malnutrition and parasites contributed to the high rate of pup mortality.

In 1990, the two services selected the park as a potential restoration site because of the large tracts of federal land that make up the park and surrounding national forests. Restoring long-gone predators is a part of the National Park Service's goal of reestablishing the native plants and animals which existed at the time European settlers first arrived in the mountains.

Fish & Wildlife... In Brief

Engineer Cockrell Receives White House Award

Frank B. Cockrell, alternative fuel vehicle coordinator for the Service, received special recognition for his outstanding contribution toward efficient energy use in the federal government. He received a congratulatory letter from President Clinton and was presented with an award at the National Press Club last October. Over the past seven years Cockrell has been closely involved in improving vehicle fuel conservation and in acquiring alternative fuel vehicles for the federal government. He has also helped foster increased use of alternative fuels, and promotion and awareness of alternative fuel vehicles. Cockrell was instrumental in the development of the Department of the Interior's first electric tram at Patuxent Wildlife Visitor Center in Maryland; the demonstration of an electric pickup truck at the Service's Lake Champlain Fish and Wildlife Resources Office in Vermont; the completion of three electric trams at Back Bay NWR in Virginia; and a trial demonstration of five electric pickup trucks at four Virginia refuges.

Agreement Results in Healthy Great Lakes Trout

Lake trout fingerlings being reared as part of a hatchery isolation program at the Keweenaw Bay Indian Community Hatchery near L'Anse, Michigan, were declared "disease-free" and given a clean bill of health after a recent health inspection by the Service. Tribal staff have been nurturing three strains of lake trout since fall 1997 when the eggs were collected and fertilized at three Lake Superior reefs. The fingerlings, now six inches long, will continue growing at about one-half inch each month. If the fish remain healthy, they will be

transferred as 10-inch fish to a Service hatchery in June 1999. The fish rearing project is part of a two-year cooperative agreement between the Keweenaw Bay Community and the Service. The agreement calls for the Community to isolate and raise three strains of lake trout for use as future broodstock. In exchange, the Service will provide yearling lake and brook trout from its hatcheries to Keweenaw Bay and the Community's reservation waters.

Remembering Service Veteran Harry Ben Crandell

The National Wildlife Refuge System lost a good friend last fall with the death of Harry Ben Crandell on September 29. Crandell spent 20 years with the Service, first on refuges in Arizona, Oklahoma and Wyoming, beginning in 1951. In 1959 he moved to Albuquerque to direct the land acquisition program for eight states, and he was instrumental in the establishment of 16 new national wildlife refuges. He also was the chief planning officer for the Division of Refuges before becoming Director of Wilderness Reviews at The Wilderness Society. Later Crandell served as Chief of Staff for the Subcommittee on Public Lands and Alaska of the House Interior and Insular Affairs Committee. In that capacity he played a vital role in adding about 55 million prime acres of habitat to the refuge system in Alaska.

Fulfilling the Promise of the Future

The final year of the century is one for reflection and resolutions. The Fish & Wildlife Service has its history to celebrate: the establishment of the refuge system; the growth of the fish and wildlife management profession; the passage of significant environmental laws; and the conservation of many species, including the recovery of the bald eagle and the peregrine falcon.

But we also face a major crisis: the loss and fragmentation of natural habitat. The United States has lost more than half of its wetlands, more than 85 percent of its forest lands and nearly all of its tallgrass prairies.

Yet there is reason for optimism. The Service is enjoying strong and widening support on Capitol Hill and in the administration, as well as growing public support—our partners and constituents are becoming increasingly involved in our efforts in ever more innovative ways.

Last October, I set four priorities to harness this momentum and address these habitat problems.

Strengthen the Ecosystem Approach

Since fish and wildlife issues are connected to ecosystems as a whole, we need a comprehensive management approach that identifies ways to live on the land without compromising its health.

This is the ecosystem approach, and partnership is an essential element. Partnerships are reaping rewards for Montana's Blackfoot Challenge and the Ohio River watershed. The public is responding and participating. The health of the resource demonstrates that success.

An ecosystem approach requires that the Service rally the resources and expertise of its diverse parts for a unified effort to

heal landscapes. For that purpose, our organization has—while preserving the integrity of our individual programs—formed ecosystem teams focused on 53 watersheds.

In the coming months, I plan to visit various teams to learn of their challenges and how they are meeting them.

Increase Migratory Bird Conservation Efforts

Migratory bird protection presents a great opportunity to implement the ecosystem approach. Birds are important indicators of environmental health and many migratory populations are declining due largely to habitat loss.

The North American Waterfowl Management Plan and the Partners in Flight program will help us and our partners lift migratory bird conservation to a higher level. Our efforts will be aided by the addition of sites to the international Ramsar convention on wetlands and to the Western Hemisphere Shorebird Reserve Network.

Additionally, our education and outreach programs will address migratory bird issues related to oil pits, power transmission lines and pesticide use.

Lead the Fight Against Invasives

There are more than 6,000 nonnative plants and animals contributing to the decline of nearly half of all endangered species in the United States and causing more than \$100 billion in annual damages.

We need a comprehensive survey of invasive species on Service lands and biodiversity hot spots, with control actions identified for each species. The battle against nonindigenous species should be a priority for funding through our Partners for Fish and Wildlife program. Our refuges and hatcheries should

be safe havens for native species displaced by invasives. And we should accelerate the Aquatic Nuisance Species Task Force's cooperative prevention and control efforts.

The Service, with its global scope and mix of specialized scientific expertise, should emerge in a leadership role on this issue.

Strengthen the National Wildlife Refuge System

Last October, managers and other ambassadors from all our refuges and our other programs, as well as many of our conservation partners, came together for the first time ever at the National Wildlife Refuge System Conference. Out of this conference is springing something very precious—broad endorsement of a vision for our refuge system that will build on the momentum of recent successes and catapult us into the new century and beyond the system's centennial anniversary. What happened at the conference was nothing short of magical, and it is up to each of us to keep that spirit of energy and hope alive, to keep the promise of an even greater National Wildlife Refuge System.

The future is full of challenges but also promise. Our predecessors persevered when faced with crisis. Their legacy should inspire us to do likewise. You can expect to see me personally engaged as we move forward in the priority areas I have outlined.



Jamie Rappaport Clark

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Deadline for May issue:

April 1, 1999

Deadline for July issue:

June 1, 1999